

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Original) A method for determination of a dynamic property of a fluid volume, comprising, determining the distribution or location or both of at least one light scattering particle in said fluid volume by detecting light scattered from said at least one particle.
2. (Original) The method of claim 1, wherein said dynamic property is flow rate.
3. (Original) The method of claim 1, wherein said dynamic property is particle distribution in said fluid volume.
4. (Original) The method of claim 3, wherein probes are present in said fluid volume and said particle distribution is indicative of the distribution of said probes in said fluid volume.
5. (Original) The method of claim 4, wherein said distribution of probes is on a solid phase surface.
6. (Original) The method of claim 1, wherein said dynamic property is uniformity of drying on a solid surface.
7. (Original) The method of claim 1, wherein said dynamic property is a flow pattern in a device or portion of a device, said device being an article of manufacture including one or more channels or reservoirs for fluid.
8. (Original) The method of claim 7, wherein said dynamic property is fluid mixing being evaluated in one or more portions of said device or through the entire device, said portions being selected from the group consisting of a mixing chamber, a port, a flow channel, a pump, a valve, and a flow channel intersection.
9. (Original) The method of claim 1, wherein said fluid volume is in a small volume device.

10. (Original) The method of claim 9, wherein said small volume device is selected from the group consisting of a micro volume device, a nano volume device, and a pico volume device.
11. (Original) The method of claim 9, wherein said small volume device is selected from the group consisting of an array chip, array plate, or array slide;
12. (Original) The method of claim 9, wherein said small volume device is a membrane or porous matrix.
13. (Original) The method of claim 9, wherein said small volume device is selected from the group consisting of a pump; a port, a channel junction, and a valve.
14. (Original) The method of claim 9, wherein said small volume device comprises an array comprising a plurality of features and has deposited on each feature a volume of 10 pL to 10 nL.
15. (Original) The method of claim 9, wherein said small volume device comprises an array comprising a plurality of features and has deposited on each feature a volume of 10nL-200nL.
16. (Original) The method of claim 9, wherein said small volume device comprises an array comprising a plurality of features and has deposited on each feature a volume of 200 nL to 2 microliters.
17. (Original) The method of claim 9, wherein said small volume device is a microchannel device, comprising at least one microchannel of sufficient size to allow fluid flow.
18. (Original) The method of claim 1, wherein said at least one particle comprises a plurality of distinguishable particles.
19. (Original) The method of claim 18, wherein said plurality of distinguishable particles is used to analyze mixing of fluids from two different sources.

Claims 20-31. (Cancelled)

32. (Original) A method for analyzing fluid flow in at least one portion of a small volume device, comprising  
illuminating a suspension of light scattering particles in at least one portion of said device; and  
detecting the presence of said light scattering particles as an indication of said fluid flow.

33. (Original) The method of claim 32, wherein a plurality of different light scattering particles are inserted in said device, and said plurality of different particles are detected as an indication of said fluid flow.

34. (Original) The method of claim 32, wherein said at least one portion is a plurality of portions of said device.

35. (Original) The method of claim 32, wherein said flow is detected using extended exposure, whereby said light scattering particles provide flow tracers.

Claims 36-42. (Cancelled)